DOCUMENT RESUME

ED 203 632 EC 133 317

AUTHOR Gallagher, James J.: Weiss, Patricia
TITLE The Education of Gifted and Talented Students: A History and Prospectus. Occasional Paper No. 27.
INSTITUTION Council for Basic Education, Washington, D.C.
PUB DATE 79
NOTE 47p.
AVAILABLE FROM Council for Basic Education, 725 Fifteenth St., N.W., Washington, DC 20005 ($2.00, $1.60 each for 20 or more).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Educational History: *Educational Trends: Elementary Secondary Education: *Gifted: *Individual Characteristics: Special Programs

ABSTRACT

The booklet reviews the history of special efforts to educate gifted children, notes characteristics of giftedness, and describes current efforts to provide special help for gifted students. Various subgroups of the gifted (including creative children, gifted women, and those talented in leadership) are mentioned. Trends in education of the gifted are noted from 1865 to the present. Among the special gifted programs considered are the Study of Mathematically Precocious Youth, the Calasanctius School (Buffalo, NY), and the Executive High School Internship of America. Methods for dealing with the gifted underachiever and culturally different gifted child are also discussed. Future trends in the area of gifted education are examined as they relate to the issues involving a concept of giftedness as a genetic trait, definition of giftedness, lack of systematic and suitable curriculum material, and intervention with the gifted underachiever. (SB)

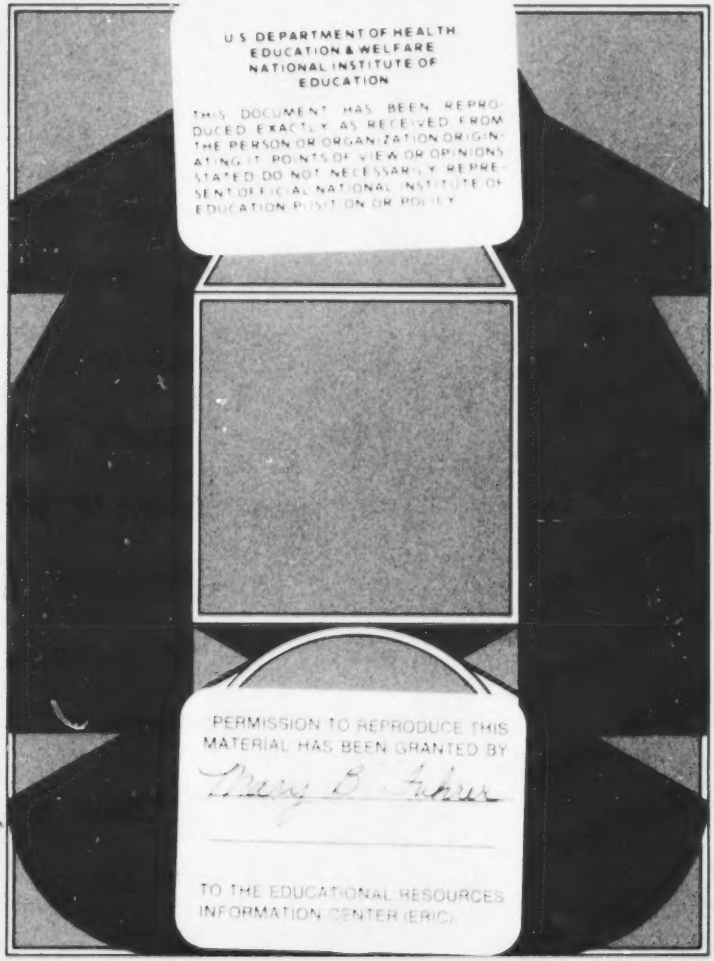
****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED203632

EC

The Education of Gifted and Talented Students: A History and Prospectus

by James J. Gallagher and Patricia Weiss



U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Mary B. Fahr

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC).

EC133317

Occasional Paper 27
Council for Basic Education • Washington, D.C.

WHAT THE COUNCIL IS

The Council for Basic Education is a non-profit, tax-exempt educational organization whose primary purpose is the strengthening of teaching and learning in American schools. CBE believes that all students should receive instruction in the basic intellectual disciplines, especially English (including reading, writing, speech and literature), mathematics, science, history, geography, government, foreign languages, and the arts. The Council invites others to share the conviction that there is an intimate relationship between a healthy democracy and the ideal of excellence in education.

CBE MEMBERSHIPS AND BULLETIN SUBSCRIPTIONS

A 50 percent discount will be offered to institutional groups (five memberships or subscriptions sent to the same address).

Members of all classes receive *Basic Education*, the Council's monthly publication, and the occasional papers as they are issued, and they may vote at annual or special meetings. At the time of initial enrollment, *sustaining* members may choose one of CBE's books. *Contributing* members receive all CBE publications.

CBE offers the following membership classes:

Regular membership—$10.00 ($15.00 after January 1, 1980)
Sustaining membership—$15.00 ($25.00 after January 1, 1980)
Contributing membership—$100.00

Subscription to *Basic Education* alone is available for $8.00 a year. ($10.00 after January 1, 1980.)

Printed July 1979
Reprinted November 1979

THE EDUCATION OF GIFTED AND TALENTED STUDENTS: A History and Prospectus

by
James J. Gallagher
and
Patricia Weiss

Frank Porter Graham Child Development Center
University of North Carolina - Chapel Hill

Council for Basic Education
725 Fifteenth Street, N.W.
Washington, D.C. 20005

Copyright © 1979 by the
Council for Basic Education
725 Fifteenth Street, N.W.
Washington, D.C. 20005
Price: $1.00
($1.50 after January 1, 1980)

FOREWORD

"He is the kind of child a teacher dreams of having once in a lifetime. But now that we have him, we don't know what to do with him."

So said his principal of fifth-grader Tommy Irwin (*Time*, April 23, 1979). First tagged as a behavior problem, then said to have a learning disability, Tommy was found to have an I.Q. of 169. He was admitted—hesitantly and late—to a 12-week program for gifted children, a program that proved to be "mostly arts and crafts with a few field trips run by a volunteer." After Tommy was given permission to enroll in a high school Spanish class, the permission was revoked when the local school board expressed concern about establishing a precedent. Tommy goes to school in a state that spends $740 per pupil on 220,000 handicapped students, $40 per pupil on 70,000 gifted.

Much more often than not, to be a gifted child in school is to be a handicapped child—and to belong to a minority against which society discriminates both by neglect and by prejudice. Yet the special needs of these children deserve attention as much as the needs of any other children; and society needs their gifts.

Fortunately, the prospect of education for this important minority is better today than it has ever been in our country's history. Not yet bright, but clearly better. It is better because individuals like James Gallagher and Patricia Weiss are devoting their professional careers to improving education for the gifted and talented. The prospect will grow brighter as society comes to understand the importance of such education, and learns where to set hand.

This CBE occasional paper is intended to promote that understanding and learning. Dr. Gallagher and Dr. Weiss clearly explain what giftedness is; concisely they set the emergence of opportunities for education of the gifted and talented against an historical background; and they go on to discuss comprehensively the condition of that education

today—with ample and heartening specific references to activities that give assurance of progress made and of hope for better conditions to come.

James J. Gallagher is director of the Frank Porter Graham Child Development Center and Kenan Professor of Education at the University of North Carolina. The author of *Teaching the Gifted Child* (Boston: Allyn & Bacon, Inc., 1975), Dr. Gallagher has written extensively on this subject during the course of his distinguished academic and professional career. Patricia F. Weiss, now an instructor at the University of North Carolina, is an experienced teacher of exceptional children. She has contributed to *Teaching Parents to Teach* (New York: Walker and Co., 1976) and to *Affective Development* (New York: Parents' Magazine Enterprises, Inc., 1978).

CONTENTS

	Page
America's Love-Hate Relationship with the Gifted	1
Who Are the Gifted?	3
Characteristics of Giftedness	4
The History of Educational Programs for the Gifted	10
The Modern Era—1955 to Present	16
The Present Situation	26
Future Trends	31
Suggestions for Further Reading	37

America's Love-Hate Relationship with the Gifted

Over the long span of Western history, the perceptions of many gifted individuals have brought about great transformations in society and civilization. Plato, Mendel, Copernicus, Freud, Darwin, Curie, Shakespeare, Piaget—all have viewed mankind and the world differently, and we honor them today.

We honor them; but we seldom stop to think or recognize that below their level of genius there have been countless gifted men and women in every generation whose perceptions have contributed importantly to the changing fabric of civilization. To ignore the education of gifted and talented individuals is to cheat both them and the larger society. Yet we debate the desirability of special education provisions for gifted and talented children, and we are tempted to believe that gifted students will make their contributions without any special educational help. What a comforting suggestion! If only it were true.

The question of whether we *should* educate in some special way the gifted child often takes precedence over the technical question of how best it should be done. Our gifted scholars of tender years are often told by their elders that they are "the future of the nation," that we are delighted with their academic performance and look forward eagerly to contributions they doubtlessly will make. These gifted students may well be confused by conflicting messages sent by society. The enthusiastic message is often complicated by others telling them that their talent is not welcomed and may even be suppressed.

In American society there is a love-hate relationship with giftedness and talent. On the one hand, we revere the gifted individual who has risen from humble background. We are proud to live in a society where talent can triumph over poor environment or limited family status. On the other, our nation began by battling an aristocratic elite and we are strong in our commitment to egalitarianism. We do not wish a new elite class to develop. As a result, we waver in our attitudes.

We design our elementary and secondary school programs for gifted students in ways that can be defended by careful administrators as giving no special favors, no tipping the scales in favor of the powerful or specially endowed.

Sometimes satire is the best way to illustrate the ambiguity of our position. Kurt Vonnegut has carried one of the common feelings about the gifted to a logical conclusion in "Harrison Bergeron," a short story set in the future.

> The year was 2081, and everybody was finally equal. They weren't equal only before God and the law, they were equal in every which way. Nobody was smarter than anybody. No one was better looking than anybody else.[1]

The explanation for this enforced equality was that people who were outstanding in various ways were given handicaps. Those who could dance well had to wear sandbags on their feet; those who were strikingly good looking had to wear masks so as not to embarrass those with less attractive features. And those with high intellectual ability?

> George, while his intelligence was way above normal, had a little mental handicap radio in his ear. He was required by law to wear it at all times. He was tuned into a government transmitter. Every twenty seconds or so, the transmitter would send out some noise to keep people like George from taking unfair advantage of their brains.[2]

Although society's notion of "equality" tends to be destructive of giftedness in elementary and secondary school, a miraculous transformation occurs in college and higher education. The United States has created the most complex and extensive higher education and professional school system in the world. We don't call the Stanford Medical School and the Harvard Law School schools for gifted students; but we know that's what they are and make no protest because only the "best" students are allowed to attend. After all, some of us may need good lawyers from time to time, others may need excellent surgeons, while still others may want good advice from competent psychiatrists.

As we view the needs of society, the unsolved problems such as pollution, population, energy, and the lack of a sense of national purpose, we want the best and the brightest to be well-prepared and well-motivated, not only to achieve their in-

dividual destiny, but to aid the society as a whole. When society seems to be threatened—as it was in World War II and the Sputnik era, or as it is now by pollution, limited energy, inflation, etc.--we lean towards the productive use of all talent. In more placid eras, such as the post-World War II decade, when there seemed to be little to worry and threaten us, we seek equality as a more appropriate goal.

The following pages briefly touch on the history of special efforts to educate gifted children, note their characteristics, and describe current efforts to provide special help. Never far away, however, is the continuing struggle about what is the "right" thing to do.

Who Are the Gifted?

Each culture tends to define giftedness in its own image. The definition tells us something about that culture at the same time that it defines the nature of the gifted individual. What would be called gifted in a primitive society may be very different from that which would be honored in an advanced technological society. Ancient Greece honored the orator; Rome valued the engineer and soldier. What does the following definition, now reflected in federal legislation, say about our culture?

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular program in order to realize their contribution to self and society.
>
> Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas:
>
> 1. General intellectual ability;
> 2. Specific academic aptitude;
> 3. Creative or productive thinking;
> 4. Leadership ability;
> 5. Visual and performing arts;
> 6. Psychomotor ability.[3]

This definition differs in significant ways from the definition in practical use since World War II. It expands the concept of "gifted" to include nonverbal and performance skills, recognizing that "gifted" means more than the ability to do well in the school academic program. It also recognizes the role of the environment in enhancing or suppressing gifted expression. Some if not all of the talents noted in the definition develop as a combination of native talent and opportunity. The new definition represents an attempt to open the door of opportunity to youngsters who may have diverse talents, particularly minority children whose language background and opportunities may have been limited.

Despite this effort to go beyond the strictly intellectual concept of giftedness, there remains a strong emphasis on IQ tests for identification because they are well-developed,accepted instruments, and because they tap the memory, association, and reasoning abilities crucial to high performance in school-related activities. These tests are most often supplemented by teachers' ratings in other qualities such as leadership, creativity, or visual and performing art ability for which no established measurement instruments exist.

Fortunately, there is a strong positive relationship between these skills and talents. The child who is outstanding in leadership and creative talent is also likely to score high on intellectual ability. The academically talented are often, but not always, superior in the other qualities as well.

It has been customary to assume that two to three percent of the school population is gifted. If this figure is used, there are over 2,000,000 gifted children of school age (5-17) in the public and private schools of this country. They constitute an enormous pool of potential creativity and achievement which may be realized if given a reasonable chance for development.

Characteristics of Giftedness

There has been great curiosity about the nature of giftedness and the characteristics of gifted individuals. Many speculations have been based upon experience with one or

another highly gifted individual, but we owe our overall portrait of the intellectually gifted to the work of Lewis Terman and his associates, who conducted a longitudinal study of gifted children over a forty-year span. In the 1920's Terman identified more than 1000 gifted children in California. Since the children were identified and selected through a process of teacher nomination and intelligence tests (primarily the Stanford-Binet Individual Test of Intelligence that Terman himself developed), this portrait does not represent the full range of giftedness in the definition on page 3. It represents well those who were well adjusted in school and who were able to score in the top one percent of the population on intelligence tests.

These children were evaluated first in early adolescence, evaluated again in their mid-thirties, again in their late forties, and once again in their fifties and early sixties. There is a continuing effort to follow them into their senior years.

Terman and his colleague, Melita Oden, concluded that most members of the gifted group were slightly better physically and emotionally than the average child, and that the superiority over other children was especially notable in reading, language usage, arithmetic reasoning, science, literature, and the arts. The interests of the gifted children were many and spontaneous. They learned to read easily; they read more books, made numerous collections, and cultivated more kinds of hobbies and play. They were less inclined to boast or overstate their knowledge, and they were more trustworthy when under temptation to cheat. Generally speaking, the gifted children deviated from the average in an upward direction for nearly all traits considered.

One of the many myths punctured by this study was the notion of a "law of compensation," according to which the superiority of gifted individuals in some domains is offset by inferiority in others. They were clearly superior in all measured domains, and these findings have been confirmed by smaller studies by other investigators.

The Terman study also revealed that gifted children general-

ly carried their gifts into adulthood. In terms of leadership and creative accomplishment, their performance as adults and their impact on the society far exceeded the performance and impact of non-gifted individuals. They became distinguished scientists, writers, military leaders, and academicians. At the same time, it was clear that a significant number did not fulfull their potential. Terman did a special study on those whose talents did not flourish and whom he labelled "underachievers." Oden, who completed the last study on the group following the death of Terman, concluded that "with few exceptions the superior child becomes the superior adult."[1]

The fact that *most* gifted students show good adjustment or positive attitudes does not mean that all is milk and honey. The following poem gives insight into a 13-year-old gifted youngster whose concerns may be heightened by his increased perceptivity.

I walked out on the world this morning
Its hatred and its skies of gray.
I gave a friend my old phone number,
He might think to ring it someday.
Stopped in the park, bought a paper
The headlines were written in black.
They must have been mournin' the death of the future,
I read about it two weeks back.
  Time surely flies, as
  Man surely dies.
He thinks he's as smart as the grass and the trees;
He has no tomorrow, and cries on his knees.
  He made up his bed
  Let him lie in it.
But he'll suffer a terrible fate
He didn't protect your interests
You're right.
He did nothing but hate.
The kings and the bishops, the knights and the queens
  All thrown to the fiery floor;
The pawns and their children still humble
  Are shown to the sky and its golden door.

Recent interest in the general characteristics of gifted children has shifted to regard for various subgroups of gifted children.

Creative children. There have been numerous attempts to

sort out the special characteristics of the creative child—that child who possesses superior ability to generate, visualize, dramatize, or illustrate a new idea, concept, or product. While there is a close relationship between high mental ability and creativity, it has become clear that there are particular intellectual skills and personality traits that predispose certain children and adults to creative activity.

There are different ways to view creativity. One can study the product or the process of creating; or one can study the nature of the creative individual or the mental operations necessary to produce the product. However, there appears to be general agreement on the personal traits that foster creativeness: enormous self confidence and a willingness to take risks, to ignore social norms, and to question the established order. It should be no surprise that teachers sometimes like these children less than they do the gifted students of more conventional values and attitudes.

Their personal traits apparently make it easier for these children to do the intellectual operations necessary to the creative process—to think of unusual or original solutions to problems, to persist in the face of frustration or difficulty, and to be flexible in discovering alternative paths to a goal. Many schools have been trying to design environments that are more encouraging for such students.

Gifted women. There has been increasing interest in the special problems of the gifted girl and woman in a society with many conflicting expectations and values. On the one hand, girls are led to believe that their academic abilities are valued and on the other hand it becomes clear that certain paths are off limits for them. This has been demonstrated by stereotyping some subjects and careers as masculine. Girls reject "masculine" toys, such as fire engines and doctor kits, and later select such nurturance occupations as nursing and teaching; few choose science. In junior high, girls do less well than boys in mathematics and science, while they perform better in artistic and social subjects, paralleling their expected role in society. In searches for extraordinarily talented

students in mathematics, boys have appeared with much greater frequency than girls.

While the opportunities for diverse career and occupational choices have clearly increased since the women in the Terman study were in school, many barriers still remain. One view of the changes necessary in order for gifted girls to receive full opportunities in mathematics and science is to alter the sex-role stereotyping that leads parents and educators to have different expectations for girls and boys, particularly in mathematical achievement and professional goals. It will also be necessary to modify the sex-role stereotypes held by educators and the adolescent peer group that discourage female creativity, intellectual risk taking, and achievement. In addition, it will be necessary to change the media's reinforcement of the idea that mathematics and science are for men only, while the proper role of women is caring and feeding or passive occupation with non-intellectual pursuits.[5]

Culturally different gifted. Concern for the proper education of minority children has been translated into specific efforts to search for talent in subgroups with cultural heritages different from the standard American pattern. Every ethnic and racial group that has been studied has produced its share of extraordinarily gifted individuals. The nature and extent of giftedness in any group appear to be tied to the cultural values of the members. For example, studies of Navajo Indian children found that they were superior in auditory memory but inferior in figure classification. Further investigation revealed that the Navajo language is a spoken, sparse language with a minimum of words for classification, and the language itself is learned through the auditory sense. Other educators have pointed out that while some gifted black students might be less verbally facile, they may have superiority in other traits, e.g., willingness to try alternative solutions or symbolic expressiveness.

Special educational programs for gifted minority students should include respect for their culture in curriculum offerings and full use of community resources for a range of ex-

periences and models. Recruiting and training persons with rich knowledge of cultural pluralism are also necessary.

Leadership. The concept of leadership as a variety of giftedness is relatively new, and there has not been much school experience with identification techniques or programs designed to enhance these characteristics. There is debate on the role the environment and circumstances play in identifying or defining leaders. Two classic leadership theories pose competing views of the emergence of a leader: the "Great Man Theory" holds that particular individuals are endowed with characteristics that cause them to stand out and permit them to guide, direct, and lead the majority; the "Times Theory" views leadership as a function of a given set of social characteristics and situations. At any particular time, groups of people have certain needs that require the services of an individual to assist them in meeting those needs. The individual, according to this view, becomes a leader by being at the right place at the right time.

As with other conflicting theories, there is probably merit in both of these. Despite the fact that there are unique qualities that cause different persons to be leaders of the football team and the senior choir, these characteristics seem to be possessed by leaders in a variety of settings:

1. Strong drive for responsibility and task completion.
2. Vigor and persistence in the pursuit of goals.
3. Venturesomeness and originality in problem solving.
4. Self-confidence and sense of personal identity.
5. Willingness to absorb interpersonal stress.
6. Willingness to tolerate frustration and delay.
7. Ability to influence others' behavior.
8. Capacity to organize people for a specific purpose.

Because these qualities are, in many respects, responsive to training, the concept of enhancing or creating gifted leaders appears to be reasonable, given a base of such strong personal characteristics as high intellectual ability.

Underachievers. There is a substantial subgroup of gifted in-

dividuals who can be labeled underachievers, whose performance in school and in life falls short of reasonable expectations. For example, a student with intellectual ability in the top one percent of his age group who maintains only a C average is considered an underachiever even though his performance may be "satisfactory" from the standpoint of his teachers and peers.

Many research studies have been conducted to discern the special characteristics of gifted students who do not do well, and the results of these investigations show substantial concordance. Patterns of underachievement are established early; both boys and girls can be identified while still in elementary school. The most common characteristics identifying the underachiever are related to personality and attitude. The gifted underachiever has greater feelings of insecurity than the gifted achiever, less self-confidence, less perseverence, and lacks definable life goals. Boy underachievers often have stressful relationships with their fathers, while girls seem more troubled by choosing their societal role (see section on gifted girls above).

Although we are likely to continue to add to our knowledge of these subgroups and others not specially noted here (gifted artists, for example), the most challenging task that faces us now is how to provide experiences and environments that can most effectively enhance the abilities gifted students have. The need to do so rests both on our ideological commitment to provide students what they need for self-enhancement and on the fact that the problems facing our society demand that we array the maximum of our human resources available.

The History of Educational Programs for the Gifted

The idea that special provisions should be made to educate the most gifted and talented in a society is hardly new. Political leaders and philosophers have often turned in this direction to strengthen their society. Plato stated in *The Republic* that the task of society was "to compel the best

natures" to obtain learning that would best serve the common good. He believed that the survival of Greek democracy depended upon the education of superior citizens for leadership positions. Through the years the same sense of the social desirability of talent development has been the underlying reason for special attention to gifted individuals.

In the 16th century, Suleiman the Magnificent made special efforts to identify gifted youth throughout the Turkish empire, and provided special education for them in the Moslem faith, and in war, art, science, and philosophy. His talent scouts, who surveyed the population at regular intervals, were able to select and educate a large group of superior individuals to the advantage of the Ottoman empire.

In our society, Thomas Jefferson showed an interest in the development of the most promising students and wished to educate them at public expense. In his *Notes on the State of Virginia* Jefferson stated, "We hope to avail the state of those talents which nature has sown as liberally among the poor as the rich, but which perish without use, if not sought for and cultivated."

It is difficult to consider the history of programs for gifted children without a perspective of other forces at work in the society. For example, the immigration of middle and southern European families to this country at the end of the 19th and the beginning of the 20th centuries resulted in a major influx into the public school systems of youngsters who initially had difficulty adapting to the standard American educational programs of the period. Such immigration increased the demands for special education or special classes for gifted and talented youngsters to assure that their needs would be adequately met while increased attention was paid to the different needs of immigrant children. For another example, during World War II there was a great emphasis on moving students more quickly through the educational system, particularly higher education, so that they could participate directly in the war effort. This renewed interest in acceleration of the educational program for gifted students. When one notes a major shift in the

way the society views the gifted and the talented, it usually reflects a major change in the society itself.

Program adaptations. Historically, programs for gifted students have used two basic modifications to adapt the school program for gifted and talented students. The first of these is *acceleration*, or speeding up the school process so that the total time spent in school is less for the gifted student. This recognizes their ability to master standard material earlier, and also helps them complete a long educational program in shorter time.

The second basic adaptation of the regular program for the gifted is *grouping* the gifted youngsters for common instruction. Grouping can be done in a special school, in special classes within a regular program, with part-time special interest groups, or with advanced placement classes in curricular subjects. The purpose of such devices is to give the teacher the opportunity to work with students of high potential without also having to work with students who are at lower achievement levels or who need remedial help.

When we discuss the "earliest" identifiable provisions for special education for gifted students, we ignore, of course, the fact that since teaching began individual teachers have been identifying gifted students and providing special experiences and modified programs for those students. The special provisions that are discussed here are those institutional arrangements that became identified districtwide or statewide.

1865-1900. Shortly after the Civil War a number of school systems, usually stimulated by one dynamic and assertive educator, introduced administrative programs which took special cognizance of the gifted and talented student. In 1867 William Harris, then superintendent of the St. Louis Public School system, introduced a plan of flexible promotions to recognize children's different rates of progress in school. This provision allowed children to advance at their own paces and called for promotions every five weeks, if justified by achievement. Harris's plan was one of the first systematic attempts to accelerate youngsters. The fact that it was not widely used

suggests that, even then, educators were nervous about making separate arrangements for the gifted and talented.

The major trend in this era was multiple tracking: the establishment of fast, medium, and slow groups. This was one of the first efforts to take care of the growing diversity of ability and achievement among students in the public schools. The first multiple tracking program probably occurred in Elizabeth, New Jersey, in about 1866. Similar programs appeared in other cities in the United States from Massachusetts to Michigan.

There is little evidence that these placements resulted in major changes in course content. They were merely devices to allow students to proceed more rapidly through the existing curriculum than was possible in more conventional arrangements, and to reduce the diversity of student performance faced by the teacher in a single classroom.

1900-1925. This quarter of a century saw an increase in industrialization, the beginnings of the labor movement, a world war, and major immigration of families from middle and southern European countries. In education, one of the major movements of the period was the development of instruments to measure the intellectual ability of young children. Interest in the measurement of individual differences was first noted by the English scientist, Sir Francis Galton, in the late 1800's. However, it remained for two French scientists, Alfred Binet and Theodore Simon, to give practical application to Galton's ideas. Binet and Simon devised the first intelligence test, primarily to identify youngsters who were mentally retarded. Their ideas, however, were adapted by Lewis Terman, who revised the Binet scale and in 1916 published the Stanford-Binet Individual Test of Intelligence. This test played a major role in programs for the academically gifted for four decades. It first allowed the schools to identify youngsters for placement in special programs for the gifted, and it served as the basic tool for the inclusion of youngsters in the 40-year longitudinal study of giftedness conducted by Terman and his associates.

During this era, there was much fascination with the developing science of genetics. The individual intelligence test became the tool used in several genetic studies. The role that early experience plays in performance on the intelligence test was ignored in favor of an interpretation that the test measured fundamental hereditary characteristics. It is likely that the ruling circle of Anglo-Saxon and northern European leaders was not displeased with the results of studies that found northern European children had higher intelligence than children of other cultures (often children of recent immigrant families). They were content to believe that their intellectual stock was stronger than that of other groups.

One of the other uses of the intelligence test was to identify youngsters with potential but who were not performing. Until there was a measure of intellectual potential (the IQ test), it was impossible to identify the underachievers, the youngsters who should be performing better in school than, in fact, they were.

During the first quarter of the century, a wide variety of programs designed to individualize instruction emerged. In 1912 Frederick Burke proposed a self-instructional plan for bright learners in San Francisco, and Dr. Carlton Washburne proposed the Winnetka (Illinois) Individualized Instruction Plan to allow students to progress at their own rates. In Dalton, New York, a contract plan was proposed that allowed for individualized study organized by monthly units. These plans for individualized instruction were one way that administrators were trying to provide for bright students. However, in the cities the number of children needing such instruction forced educators to consider other options. There was interest in the differential rates of learning of the total student body, and this promoted attempts to group youngsters of high ability together for instruction.

The best example of such a program is the Cleveland Major Work Classes, a program that began in 1921 and continues to the present day as an outstanding example of programmatic adaptation for gifted and talented students in grades 2-12 within a large public school system. Considerable emphasis is

placed on enrichment, special curricula, and acceleration of course content rather than merely on speeding the youngsters through the standard curriculum.

In addition to special classes within the public schools were efforts, particularly in large communities, to establish separate schools to meet the needs of special talents of the children. One of the first efforts was made in 1901 in Worcester, Massachusetts. New York City established the Lincoln School and the Horace Mann School during the same period.

1925-1950. The second quarter of the century also saw major changes in American society. Depression followed prosperity, and another world war followed the depression. Society was affected by a significant redefinition of the roles of management and labor, and higher education became increasingly important to a large proportion of the population. More children remained longer in school—particularly children of low income and social status—and the development of special programs for gifted students had already begun, mainly in the form of grouping.

In the period before World War II particular attention was paid to the most gifted students—those with IQ's of 180 or higher, whose development is sometimes double the ordinary rate. Leta Hollingworth devised a special program for such students in New York. It allowed them freedom to explore a wide range of curricular options. One of the educational objectives was learning to "suffer fools gladly." The ability of the public schools to make adequate provision for such unusual (1 in 100,000) youngsters has yet to be demonstrated.

The ebb and flow of provisions for gifted children was clearly seen in the decline in special programs following the depression and World War II. By 1948, less than one percent of larger school systems described their programs as involving some kind of ability grouping. The figure is probably unreliable because there are many administrative devices to create informal ability grouping; nevertheless it does reflect a retreat from earlier attempts to establish identifiable special classes and schools.

In addition to grade-skipping, which at one time seemed to be the most popular procedure, there were other means of acceleration. One was early admission to grade school, for youngsters of superior mental and physical maturity. There were early admission schemes in Brookline, Massachusetts, and in the State of Nebraska. Such programs arose in particular places because of the enthusiasm of dominant educational figures, who convinced those in authority to adopt such policies. This helps to explain the irregular occurrence of practices and policies that has marked gifted programs throughout the years.

During the years before and after World War II, there was increased concern with the social and emotional development of the child. Many wondered whether grade-skipping was harmful to the social and emotional development of gifted children, and whether gifted students should be placed in classes by themselves. The emphasis on egalitarianism and on equal opportunities for all, stimulated in part by World War II, also reduced the commitment of the schools to special provisions for the gifted.

Although isolated voices discussed the merits of broadening the concept of giftedness to make room for the artistically talented and others, those voices were usually unheard. There was indeed a sharp disjunction between programs for artistically gifted and talented students and those for the academically talented both in public and in private education.

The Modern Era - 1955 to Present

The emphases in education of gifted students in the modern era differ in important respects from previous times. We have already noted the broadening of the definition. The second major change is an emphasis on what goes on *inside* the classroom. Whereas in previous times the discussion of special education for the gifted centered upon administrative arrangements (special classes or acceleration), attention is now centered on the content, skills, and specific educational objectives of the special program. Again, powerful forces in the larger society influenced this subtle change.

Content changes. How did the Russians get ahead of us? This was the question of the late 1950's. Surveys and studies of our educational system answered that the curriculum in the secondary schools, particularly in mathematics and the physical sciences, was in disarray. Students who could be expected to enter the sciences (many of them gifted students) were confronted with a patchwork quilt of new knowledge and old knowledge in the science textbooks with little opportunity to grasp the heart of the subject matter. Even worse, students rarely had the opportunity to learn the essential skills of experimentation.

In the post-World War II era, the United States had a sense of ultimate security possessed by few nations in the modern world. Despite a variety of international conflicts, our unchallenged nuclear superiority was an imposing advantage and the homeland's safety was never in question.

With the development of the Soviet Union's capability for nuclear warfare, this sense of security diminished; and the dramatic launching of Sputnik, with its clear implication that the Soviet Union could now deliver a nuclear attack, caused the United States to search for resources to regain a competitive edge.

A half decade of frenetic activity followed to improve the curriculum and encourage gifted students to pursue careers in mathematics and the physical sciences. The National Science Foundation sponsored a wide variety of projects. Among these were the School Mathematics Study Group (SMSG), Physical Sciences Study Committee (PSSC), Biological Sciences Curriculum Study (BSCS), Chemical Bond Approach (CBA), and Project Physics (PP). Later on, the social sciences and humanities also developed new curricula such as Project Social Studies, Project English, and the Anthropology Curriculum Study. Jerome Bruner, speaking for the movement, described several major principles embodied in all the new curricula regardless of content:

> The first is that understanding fundamentals makes a subject more comprehensible. This is true not only in physics and mathematics . . . but equally in the social studies and literature. Once

one has grasped the fundamental idea that a nation must trade to live, then such a presumably special phenomenon as the Triangular Trade of the American Colonies becomes simpler to understand as something more than commerce in molasses, sugar cane, rum, and slaves.

The second point relates to human memory. Perhaps the most basic thing that can be said about human memory is that unless detail is placed into a structured pattern, it is rapidly forgotten. A scientist does not try to remember the distances traversed by falling bodies in different gravitational fields. What he carries in memory instead is a formula that permits him to regenerate the details on which the more easily remembered formula is based.

Third, an understanding of fundamental principles and ideas appears to be the main road to adequate transfer of training. To understand something as a specific instance of a more general case is to have learned not only a specific thing but also a model for understanding other things like it that one may encounter.[6]

On the basis of these principles, the new curricula set out new instructional programs that taught the basic structure of the discipline, required students to approach the subject matter as the specialist approaches it, and introduced important ideas at as early an age as possible. Not surprisingly, such curricula were directly in line with the special educational needs of gifted students, and this philosophy was carried over into many programs planned especially for them. The general objectives of programs for the gifted thus became: mastering the structure of the disciplines and understanding the basic principles at the heart of the subject matter (rather than simply learning facts and associations); and learning the skills of problem solving, creativity, the scientific methods, etc. (to become more autonomous learners, unconstrained by the limits of teachers or programs).

Actually, opinion is divided as to whether the movement ended abruptly in the mid-1960's when schools and society became preoccupied with the special educational needs and rights of disadvantaged children, or whether it was absorbed into the educational program.

The importance of this movement for the gifted student was that for a brief time teachers were prompted to teach for the highest level of abstract concepts instead of to the lowest common denominator in an intellectually heterogeneous class. Ex-

amples of different educational objectives for different intellectual levels may be noted in the following chart.[7]

Ability Level	History	Nutrition
Bright	Patterns of governing in cultures across time and national boundaries	The biochemistry of food and the translation of food into energy
Average	The beginnings of American government: our historical heritage	Understanding of nutrition: classification of carbohydrates, proteins, fats, etc.
Slow	How local government works and influences me	Kinds of nutritious food to buy: samples of balanced meals

It is essential to incorporate knowledge with abstract principles, particularly for gifted children. It is all too easy to allow a special program to become a mass of interesting facts that fail to illuminate larger ideas, and may serve to distract the student from such seminal concepts. Regrettably, the brief marriage between scholar and teacher of the gifted was concluded in the late 1960's and has not yet been renewed.

Excellent examples of synthesizing knowledge with abstractions are the two BBC television series, *Civilisation* by Sir Kenneth Clark and *The Ascent of Man* by Jacob Bronowski. Both used central ideas and major insights as the core of the presentations and built illustrative examples, related concepts, and consequences around them.

Examples of such central ideas can be noted from the Bronowski series:

> War, organized war, is not a human instinct. It is a highly planned and co-operative form of theft. And that form of theft began ten thousand years ago when the harvesters of wheat accumulated a surplus and the nomads rose out of the desert to rob them of what they themselves could not provide.[8]
>
> The different cultures have used fire for the same purposes: to keep warm, to drive off predators and clear woodland, and to make simple transformations of everyday life—to cook, to dry and harden wood, to

> heat and split stones. But, of course, the great transformation that helped us make our civilization goes deeper: it is the use of fire to disclose a wholly new class of materials, the metals . . .[9]
>
> Easter Island is over a thousand miles from the nearest inhabited island . . . Distances like that cannot be navigated unless you have a model of the heavens and of star positions by which to find your way. People often ask about Easter Island, How did men come here? They came here by accident: that is not in question. The question is, Why could they not get off? And they could not get off because they did not have a sense of the movement of the stars by which to find their way.[10]

Unhappily, few organized efforts to imbue current programs for gifted students with attention to such central ideas can be noted. Instead, "far too many programs for the gifted . . . are essentially collections of fun-and-games activities, such activities lack continuity and show little evidence of developing in a systematic fashion the mental processes that led these children to be identified as gifted."[11]

Skills changes. In addition to changes in content, emphasis has been given to the development of those skills in gifted students that enhance their creative performance and problem-solving capabilities, and enable them to address novel situations successfully. The reasons for this change are to be found in the recognition of our rapidly changing world and the need to develop students with flexible thinking skills. As Charles Silberman puts it, "To be practical, an education should prepare a man for a work that doesn't yet exist and whose nature cannot even be imagined. This can only be done by teaching children how to learn and by giving them the kind of intellectual discipline that will enable them to apply man's accumulated wisdom to new problems."[12] The curricular programs noted above for training students in scientific skills provided additional impetus for other programs which emphasized problem-solving.

It has been said that there is nothing so practical as a good theory. Most of the educational efforts to stimulate skills of problem-solving and creativity owe their allegiance to the theoretical model first proposed by J. P. Guilford in an address to the American Psychological Association in 1950. His *structure of intellect* is one of the most comprehensive attempts to chart intellectual operations and products in human beings.

Guilford proposed several major dimensions that he suggested were linked to creativity *and* not sufficiently covered by standard intelligence tests. Prominent among these was the intellectual operation of *divergent thinking*—the ability to think of many different answers and produce unique solutions to problems. Instead of the tightly constructed and one-right-answer character of IQ test items, on a test of creativity Guilford used items such as: "How many ways can you use a brick?" and "What would happen if everyone in the world were born with three fingers and no thumb?" Such questions allow respondents to express themselves in the divergent thinking dimensions he called intellectual fluency, flexibility, and originality.

It soon became clear to educators like Paul Torrance, Mary Meeker, Calvin Taylor, Mary Jane Aschner, and others that teachers could, by posing certain questions and issues, foster the development of creative skills and abilities. During the 1960's and early 1970's much was written to help teachers stimulate creativity and problem-solving among their students in the classroom.

Although such exercises, if kept to the game-like character of the Guilford tests, may become merely interesting and fun for students, the concept can be integrated into the regular curriculum. For example, the teacher may stimulate divergent thinking in her students by framing the following questions concerning American history:

What ways can you think of that British culture and patterns influence the United States?

How might bicameral legislatures be improved?

What would happen in government if we doubled our population in the next twenty-five years?

Once teachers learn to cast questions of this type, they can do so easily in other subjects or with other topics as well. Such questions almost invariably stir student interest, since they allow for many "right" answers and encourage verbal playfulness. They also have to be combined with the other Guilford thinking operations—*convergent thinking, cognition,*

memory, and *evaluative thinking*—in order to meet the goals of learning.

While divergent thinking can be a popular addition to instruction because of its closeness to creativity, neither divergent thinking nor the intellectual operation of evaluative thinking is frequently used in classroom discussions. Attempts to bring evaluative thinking back into use can be seen in instruction on values clarification and the emphasis on teaching ethics.

Another popular ploy is to concentrate the attention of gifted students on the future. They may be asked to examine alternative futures and imagine the consequences of present actions or trends. The divergent-thinking question, "What would happen if we continue polluting our air and water at the present rate?" can be the basis of many papers and independent study efforts for gifted students. Divergent thinking is ideally suited for thinking about and planning for future possibilities.

The learning environment. A wide variety of settings has been shown to be satisfactory for the instruction of gifted students. Local conditions determine which kind of program is likely to be most useful. All the program elements noted below work under certain conditions, in certain school systems. As a rule, programs that have achieved demonstrable success group their gifted children together for some part of the school day, have personnel who are sophisticated in the content and skills the gifted should develop, and enjoy the support of the school administration.

One form the learning environment takes is special classes like those in Cleveland and San Diego. These classes have teachers who have been trained to use a challenging and sophisticated curriculum planned for gifted students. This plan provides an intensive program, but some feel that the children have insufficient association with non-gifted children. Special classes are usually found in larger urban centers.

Another form is the modified special class. Gifted children

split school time with their age and intellectual peers, or spend part of their time with a trained teacher in a resource room for special experiences and instruction. This arrangement tries to meet both social and intellectual concerns, but it still is not known what division of time is necessary to make a difference in their learning.

An increasingly popular plan is known as the mentor approach. It has been used in communities in Florida and California, and has been developed as "job exploration" in career education. Gifted students spend time with experts in different fields to learn about careers and to work part-time as interns with academic credit granted for the experience. The students may have counseling, and they may go into the community with career mentors on work assignments. They work with experts who have strength in such fields as politics, computers, or art and music.

Some school systems or parent groups have organized out-of-school programs like Saturday workshops. Such a program has been organized by the Gifted Child Society in Oakland, New Jersey, to provide intellectual enrichment for over 500 youngsters aged five to ten. Some 60 enrichment courses (e.g., "Mini Scientists," "Over 200 Bones and 500 Muscles," "Physics With No Math") in science and the humanities are offered on Saturday mornings. None duplicates any program in the regular school system.[13]

Governor's schools are another example of out-of-school programs. Started first in North Carolina (1963) and Georgia, seven or eight states including Louisiana, Alabama, and Pennsylvania now have schools which give six- to eight-week residential programs in the summer. The North Carolina program invites 400 intellectually gifted high school students to Winston-Salem following their junior year. The objectives of the program are to provide students with more experience in the arts and other academic disciplines. Included are courses that are unavailable in the usual secondary school program—for example, epistemology, and personal and social development.[14]

One of the challenges of creating a satisfactory learning environment for gifted students is to provide program content that will make these changes more than hollow administrative shells or fancy packages in which little happens. The exclusive attention to administrative devices such as resource teacher programs, special classes, or mentor classes can, in fact, result in empty programs distinguished by structure, but not by the high quality of content offered.

Acceleration. Attempts continue to find ways to help the student over the long set of educational hurdles more rapidly. Most gifted students entering kindergarten at age five can look forward to more than 20 years of schooling. Here, in outline, are some of the ways by which that time can be shortened:

GRADE LEVEL	ACCELERATION
Primary (K-3)	Early admission Ungraded primary
Intermediate (4-6)	Ungraded classes Grade-skipping
Junior High (7-9)	Shorten three years to two
Senior High (10-12)	Extra class load Courses for college credit
College (13-16)	Early admission to college honors programs

Acceleration simply by skipping grades has long been one way to move children more quickly through the school program. It has often been shown that gifted children can "condense school requirements with no difficulty and with superior performance."[15] Whether they benefit in their social and emotional development has still to be considered, however. A recent study quotes individuals who were accelerated as children. Said one, "Skipping seemed desirable at the time, an honor; in retrospect, it was probably unwise to skip as it led to feelings of insecurity due to physical and social

immaturity." Another, "In the long run, it was not worth it because I was too socially immature."[16]

When acceleration is combined with the social support of the group, it is likely to be more favorably received by participants. It also provides educators the opportunity to utilize personnel and resources for a greater number of students.

The most popular of the acceleration procedures are those that cause the least change from the normal school patterns. The College Board Advanced Placement Program, which gives college credit for special courses in high school, is an example of combining the existing school program with acceleration and curriculum enrichment. Comments of students illustrate the point:

> I benefited from it very much; however, we knew the classes were special, *but* it was not known to the rest of the student body. Being "gifted" was never flaunted in these schools.
>
> Superb. A combination which did *not* isolate all the gifted from the rest. Though it was impossible to disguise/conceal what the school thought of each student's ability, there was little social stratification by "IQ."
>
> It was a great joy and also intellectually stimulating to be exposed to peers and teachers who found the same excitement in learning that I did. The experience was an overriding factor in my own intellectual and emotional development, and I count myself lucky to have had this sort of enrichment.
>
> The class was one of the best I had in high school. I learned skills which were valuable to me in college and, in fact, from which I still benefit.[17]

One of the most unusual efforts to speed the gifted student through traditional academic programs is a radical acceleration in mathematics through a program known as the Study of Mathematically Precocious Youth (SMPY). Students who are extremely advanced in mathematics are enrolled at The Johns Hopkins University in Baltimore where they take college courses in mathematics. Some of the students are only twelve or thirteen years old, and so they are six or seven years younger than their Hopkins classmates. Other young mathematicians remain enrolled in their regular schools and take classes at the University on Saturdays for enrichment or to move ahead.

A statewide mathematics talent search using the Scholastic Aptitude Test (mathematics) turns up candidates whose performance in mathematics is greatly advanced and who have the capability of mastering college-level mathematics.

While the traditional wisdom would hold that accelerating a gifted student by more than one or two years runs the risk of social or other disjunction, Julian Stanley, the director of the program, reports that extraordinarily talented students seem to be thriving. Stanley makes the point that the youngsters of this degree of talent are probably substantially out of place with their age peers under any circumstances. It remains to be seen, however, how effective such a dramatic program will be in other settings.

The Present Situation

To appreciate fully the way education for gifted children has changed over the past half century, let's look at three children—Amy, John, and Joe.

Amy is a bright, 12-year-old high achiever, easily recognized as such by teachers and peers. Education for girls has for long been understressed; after all, before 1900 and often now, the main responsibilities for women were maintaining a household and caring for children. In the 1920's Amy, with other easily recognized bright children, might have been allowed to skip a grade or might have been in the high ability group of their class. In the 1960's, she might have been included in an advanced class and exposed to a variety of special subjects and career possibilities. Because society is gradually coming to accept women in a wider range of occupations, Amy has a much better chance of realizing her academic potential today, but the cultural pressures to conform to the traditional roles are still present and must be dealt with.

John is an underachieving boy who would probably have been lost in his class 50 years ago. His lackluster performance in academic subjects would have obscured the fact that he is gifted. Today John might be included in a class or special program for gifted children on the basis of intelligence test scores.

His performance might attract attention to his needs as an underachiever, and he might find himself in a program designed to improve motivation or one that provides counseling for him and his parents.

Joe is a bright black boy. During the first half of the twentieth century, he probably would not have received an education appropriate to his ability. Times have changed, and now there is a better chance that Joe's talent will be recognized and that he will receive some form of services for gifted children. As long as Joe has high general intellectual ability or strong aptitude for an academic subject, he may be included in a group of gifted children; but if his talents do not take traditional forms, or if they are hidden by cultural or language differences, the chances are he will still be overlooked.

Patricia Mitchell and Donald Erikson reported from a national survey on current policies, resources, and services that the national picture of educational programs for gifted and talented children and youth in 1976-77 was slightly better than it was in 1971-72. More students were being identified and served; more states had statutes and policy documents; more money was being allocated; more personnel were being assigned to work in this area; more training was available. Mitchell and Erikson conclude, however: "Despite the fact there is 'more of everything' now than there was in 1972, the data gathered in this survey emphatically demonstrate that the United States still falls far short of meeting the educational needs of this special segment of its population."[18]

Since each program for gifted children needs to be tailored for the children involved, their culture or environment, and the available personnel and resources, it is difficult to present a description of the ideal program. There are key elements in planning for gifted children: a definition of giftedness that includes a suitable procedure for identification, an assessment of the children's needs, a clearly stated goal or purpose, means of achieving the goal, a plan of action that addresses teaching strategies, content, and skills, and an evaluation plan.

There are countless programs designed to meet gifted children's needs. These can serve as guides and sparks for educators who are developing a program for their own students.

In addition to those already mentioned (SMPY at The Johns Hopkins University, Governor's Schools for the Gifted, the Cleveland Major Work Classes), other existing programs include:

Special schools. The Calasanctius School in Buffalo, New York, was founded in 1957. Students are introduced to a wide range of subjects in a variety of ways at an early age. For example, the Historical Studies Program for grades six and seven teaches the history of civilization.[19]

Saturday Program. A program initiated in 1976 at the University of South Alabama offers a wide range of courses (e.g., photography, creative writing, computer programming, science, dance, theater) taught by college students who are working on degrees in gifted child education.[20]

State-wide centers. The State of Illinois has established regional centers to assist communities in planning and carrying out programs. The centers have a professional staff that offers information, advice, and help with materials.[21]

County-wide system. In Prince George's County, Maryland, services for gifted children vary according to the grade and ability of the student. At the elementary level there are cluster groups within regular classes, interclass grouping for specific subjects, and programs that take children out of their regular classes ("pull-out" programs). At the junior high school level, the county offers "pull-out" programs, grouping for specific subjects (e.g., advanced math), and independent study. At the high school level gifted students may study independently or with mentors, take advanced placement courses, and explore subjects not normally offered in school.[22]

Executive High School Internship of America. (250 Church St., New York, N.Y. 10013) High school juniors

and seniors take a one-semester leave and learn "on-the-spot" in one of the professional fields, in one of the media, in local government, or in a social service.

Underachievement. Since World War II, two methods have been used in an effort to eliminate or reduce underachievement of gifted and talented students. Both are based, in large measure, upon the distinctive characteristics of underachievers, i.e., low self-concept, inability to persevere, and lack of a sense of purpose or direction.

One method depends upon counseling designed to allow the student to explore the reasons for his low self-image. The counseling has often been limited and short-term. The results have not been very effective except in a few individual cases. The second method is to create either a more permissive or a more demanding environment. A program might be made more permissive on the grounds that this would remove the pressure students feel and react to negatively, and allow them to be more comfortable and thus more able to show their true abilities. The rationale for making the environment more demanding is that students who have poor work habits and are unable to motivate themselves, need a structured environment that will force them to carry out academic tasks they would not voluntarily do. Like counseling, these modifications of the educational environment have not demonstrated remarkable success, and so underachievement remains baffling. Educators understand the pattern very well, but have not yet developed ways of dealing with underachievers that are successful with all such students. As Gallagher has stated elsewhere,

> One way to look at the underachiever is that he is in the middle of a circle of barbed wire. All of his environment has contributed to the building of that wire circle, his family, his friends, his school, and most important himself. Any movement, any attempts to get out of the barbed wire are going to be painful. Sometimes it is more comfortable to sit quietly in the middle of his trap and bemoan his fate rather than risk getting scratched trying to get out.[23]

Cultural differences. Today, advances made for gifted children from minority groups have largely been in identifica-

tion. Instead of ignoring or passing over children because their IQ scores are unimpressive, educators now have techniques to identify youngsters of special talent from these groups. One set of criteria used for identification states:

1. The primary identification criterion should be that a child exhibits outstanding powers in one or more abilities valued by his or her culture.
2. A child should measure on national norms of ability and achievement at the bright average level or better.
3. Special consideration should be given to children with demonstrative creativity.
4. Children who show potential for social leadership should be given special consideration.[4]

It has been assumed—wrongly, it now seems—that talent is indestructible. This idea clearly relates to the presumed genetic nature of intelligence. We have tried to find methods to uncover the talent that will always be there, just as one might lift up a basket and find a lantern shining beneath it. A contradictory explanation, however, is more in line with known facts. Since ability in young children is the product of both environment and native ability, a poor environment experienced over time can substantially reduce, or even eliminate, the high talent or ability originally present. The notion that superior talent can, in fact, be suppressed or destroyed lends additional urgency to the need to discover ways to provide stimulating educational experiences.

As one thinks of the great diversity in minority groups in the United States, one realizes the difficulty in designing a single program to meet the needs of these special groups. Yet no genuine differentiation of programs has been advocated beyond such ideas as teaching the histories or contributions of the minority group, or reading biographies or autobiographies of successful minority-group members.

The general principles supported now for the culturally different are to stress cultural plurality, to make fuller use of community resources, and to recruit and train persons who have knowledge and experience to develop special educational experiences for such groups.

Future Trends

Where are we headed in this special field of education so marked by societal ambivalence and scattered professional interest?

The human tendency to try to forecast what that future will be is as old as recorded history itself. We seek oracles to give us insight into the misty future to prepare ourselves for what may happen. But we can be oracles ourselves predicting what forces are likely to affect gifted children.

The future of the education of gifted and talented children in the United States will depend on several factors: the ability of educators to conceptualize special needs and programs for these children; the ability to demonstrate and evaluate progress in special programs; what else is happening in the educational system; and the public attitude towards the desirability and importance of special education for the gifted. What individual communities and the collective American society decide to do about special experiences for gifted children in the future probably depends more on societal attitudes and values than on educational evaluations.

A pointed illustration of different value systems for different types of talent is the "Palcuzzi Ploy."

> Tired of hearing objections to special provisions for gifted children, Mr. Palcuzzi, principal of the Jefferson Junior High School, decided to spice an otherwise mild PTA meeting with *his* proposal for gifted children. The elements of the Palcuzzi program were as follows:
>
> 1. Children should be grouped by ability.
> 2. Part of the school day should be given over to special instruction.
> 3. Talented students should be allowed time to share their talents with children of other schools in the area or throughout the state. (We will pay the transportation cost.)
> 4. A child should be advanced according to his talents, rather than according to his age.
> 5. These children should have special teachers, specially trained and highly salaried.
>
> As might be expected, the "Palcuzzi program" was subjected to a barrage of criticism. "What about the youngster who isn't able to fit into the special group; won't his ego be damaged?" "How about the special cost; how could you justify transportation costs that would have to be paid by moving a special group of students from one school to another?" "Mightn't we be endangering the child by having him in-

teract with children who are much more mature than he is?" "Wouldn't the other teachers complain if we gave more money to the instructors of this group?"

After listening for ten or fifteen minutes, Mr. Palcuzzi dropped his bomb! He said that he wasn't describing a *new* program for the intellectually gifted, but a program the school system had been enthusiastically supporting for a number of years—the program for the *gifted basketball players!* Palcuzzi took advantage of the silence that followed to review his program again. Do we have ability grouping on our basketball team? Yes, we do. No doubt, the player who does not make the first team or the second team feels very bad about it and may even have some inferiority feelings. However, this will not likely cause the program to be changed. Do we allow part of the school day to be given over to special work? Generally speaking, the last hour of the day can be used, by tradition, for practice of basketball talents.

Do we allow these children to share their talents with other students from other schools and other cities? Yes, we do, and what is more, we pay the transportation costs involved without very many complaints being heard.

Do we allow gifted basketball players to advance by their talents rather than by their age? Indeed, we do. Any sophomore who can make the team on the basis of his talents gets the privilege of playing with seniors, and no one worries about it.

Finally, do we have special teachers who are specially trained and more highly salaried than the ordinary teacher? Yes, we do, and although there is some grumbling about it from the regular teachers, this does not materially affect the program.

What does this tell us? The culture and the community will support the kinds of activities that they find necessary, valuable, and/or enjoyable. If they feel that a program is sufficiently necessary or sufficiently enjoyable, all sorts of objections are put aside as being relatively inconsequential. If, on the other hand, the community is not fully interested or involved in supporting such a program, all kinds of objections can be raised as to why these things should not be done, or cannot be done.[25]

We will soon have to come to grips with the unsolved problems of modern educational programs for the gifted. The first of the unsolved problems involves the *concept of giftedness as a genetic trait.* Quite clearly giftedness is, in part, a genetic trait, as a substantial body of evidence indicates. There is also a substantial body of evidence to suggest that it is not only genetics, *but genetics married to opportunity,* that produces gifted children. Such a finding may make educators breathe more easily, because it enables them to explain troublesome differences shown by research but not widely understood. There have been major sex, racial, and ethnic differences in the proportions of youngsters identified as gifted and talented.

When one adds *opportunity* to the formula, then such differences become understandable and explainable.

A second major issue involves the *definition* of giftedness. Can creativity be discussed apart from the context in which it occurs and can leadership be reasonably discussed apart from the situation in which it occurs? How do we measure creativity and leadership? Obviously, there is still much work to be done to sharpen the concept of giftedness and, given the broad definition now in effect, to develop adequate ways of identifying such children and to establish appropriate programs for them.

A third problem is that the general lack of systematic and suitable curriculum material for the gifted and talented in all subjects remains a tight brake upon new educational adventures. Unless there is substantive work to produce curricula, special programs for the gifted and talented will not be interesting and useful to either student or teacher, or acceptable to parents.

Fourth, although we have been reasonably successful in charting the personality pattern of the chronic underachiever, we have been less successful in knowing what to do about it. Perhaps we have underestimated the seriousness of the problem. We cannot change basic personality patterns by short-term counseling, or by limited modification of the educational environment. We look to a new generation of educators to provide us with better models for the instruction of these frustrated and frustrating youngsters.

Further, there is the matter of gifted students from minority backgrounds. The past decade has seen progress and some interest and skill in identifying gifted students from culturally different backgrounds. Gifted youngsters from minority groups have always been a puzzle because of their unresponsiveness to standard measures of intellectual performance, yet educators know they have substantial intellectual capabilities. The development of new instruments and new procedures for identification has been helpful, but we still lack specific models of excellence to help determine what programs to institute for such youngsters.

Finally, we must consider what must be done to change existing public school policies in order to accomplish needed goals. If politics is the art of allocating scarce resources to meet unlimited needs, then we need to pay more attention to the process of *who* decides *what*.

Adolf Berle points out that there is creative tension between the "priests" of society who control the knowledge, and the "kings," who control power and hence the allocation of resources.[26] Each society has its priests and kings. In ours the priests are the academicians; the kings are the government. The priests are often disdainful of the kings because they know more about certain things than do they and the kings have contempt for the priests who are naive about power and the need of leaders to compromise.

In most societies the demographic characteristics of the kings hardly favor the support of programs for gifted children. Usually, the kings are *male* and often inclined to believe that children are the proper concern of women, not governments. They are likely to be *old and getting older*. They worry about this and are more likely to spend research money on cancer and heart disease than on childhood disorders. *Their own children are grown.* Kings are not likely to have children of an age at which their own experience would help them understand children's problems. They are *middle class* and do not recognize or understand the problems of poverty or the impact of these problems on children through social disorganization that accompanies poverty. They tend to weigh new proposals in terms of whether they will help or hinder their own maintenance of power.

The traditional means of the priests for communication are books and articles, while the kings generally communicate through personal contact and use their own well-developed ability to judge the reliability of the messenger. It is clear that the priests cannot content themselves with sitting in their cloisters discussing their problems only with each other. If they expect public support for their programs, the price for such support is that they must venture forth into the world and communicate their needs in the language of the kings.

Ultimately, any substantial movement forward on public school programs for the gifted will depend upon the ability of professional educators and their supporters to articulate their goals for the gifted, and upon how the members of American society resolve the conflicting feelings they have about the most talented.

The recent emphasis on costs and benefits in education reflects our concern about educational effectiveness, as well as our awareness of limited resources. The costs of programs for gifted over and above regular costs are only a fraction of that expended on other exceptional children. But the benefits? What is the cost of *not* helping the gifted and talented reach their full potential? What is the cost of the medical discovery never made, the peace agreement never reached, the sonata never written? It is hard to put such losses into dollars, but we cannot think of these without the pain of sensing what might have been.

Elementary self interest should propel us to greater effort. As Arnold Toynbee said:

> The creator has withheld from Man the shark's teeth, the bird's wings, the elephant's trunk, and the hound's or horse's racing feet. The creative power planted in a minority of mankind has to do duty for all the marvelous physical assets that are built into every specimen of Man's nonhuman fellow creatures. If society fails to make the most of this one human asset, or if, worse still, it perversely sets itself to stifle it, Man is throwing away his birthright of being the Lord of creation and is condemning himself to be, instead, the least effective species on the face of this planet.[27]

NOTES

1. Kurt Vonnegut, "Harrison Bergeron," *Welcome to the Monkey House* (New York: Delacorte Press, 1950), p. 7.
2. Vonnegut, p. 7.
3. Sidney Marland, *Education of the Gifted and Talented: Report to the Congress of the United States*. . . (Washington, D.C.: U.S. Government Printing Office, 1972), p. 10.
4. Melita Oden, *The Fulfillment of Promise: Forty-Year Follow-Up of the Terman Gifted Group* (Stanford: Stanford University Department of Psychology, Genetic Psychology Monographs, 1968), p. 50.
5. Lynn Fox, "Sex Differences: Implications for Program Planning for the Academically Gifted," *The Gifted and the Creative: A Fifty-year Per-*

spective, ed., J. Stanley, W. George, and C. Solano (Baltimore: The Johns Hopkins University Press, 1977), pp.11-12.

6. Jerome Bruner, *Toward a Theory of Instruction* (Cambridge, Mass.: Belknap Press, 1966), pp. 23-25.
7. James J. Gallagher, *Teaching the Gifted Child* (Boston: Allyn & Bacon, Inc., 1975), p. 78.
8. Jacob Bronowski, *The Ascent of Man* (Boston: Little, Brown and Company, 1973), p. 88.
9. Bronowski, p. 124.
10. Bronowski, p. 192.
11. Joseph Renzulli, *The Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented* (Wethersfield, Conn.: Creative Learning Press, 1977), p. 6.
12. Charles Silberman, *Crisis in the Classroom* (New York: Random House, 1970), p. 114.
13. Albert Oliver, "Make Mine a Mini," *GCT [Gifted, Creative, and Talented]*, (March-April, 1978), pp. 17-20.
14. V. Ward, "The Governor's School of North Carolina," *The Gifted and the Talented: Their Education and Development*, the 78th Yearbook for the National Society for the Study of Education, ed., A. Harry Passow (Chicago: The University of Chicago Press, 1979), pp. 209-217.
15. Marland, p. 40.
16. Patricia Weiss, "Attitudes Toward Gifted Education in a Sample of University Faculty," unpublished doctoral dissertation (University of North Carolina, 1978), pp. 127-128.
17. Weiss, pp. 129-130.
18. Patricia Mitchell and Donald Erickson, "The Education of Gifted and Talented Children: A Status Report," *Exceptional Children* (September 1978), p. 13.
19. Stephen Gerencser, "The Calasanctius Experience," in Passow, pp. 127-137.
20. Don Toler, "Saturday Morning Gifted Child Program at the University of South Alabama," *Talent and Gifted* (March 1977), pp. 16-17.
21. Muriel Guy, "The Illinois Program for Gifted Children," *GCT* (November-December 1978), pp. 53-54.
22. Barbara Johnson, "Project GREAT: Where Gifted Theory Bears Fruit," *GCT* (March-April 1978), pp. 7-11.
23. Gallagher, p. 353.
24. Catherine Bruch, "A Proposed Rationale for the Identification and Development of the Gifted Disadvantaged," *Gifted Child Newspaper* (December 1970), pp. 47-48.
25. Gallagher, pp. 83-84.
26. Adolf Berle, *Power* (New York: Harcourt Brace and World, 1969), pp. 533-552.
27. Arnold Toynbee, "Is America Neglecting Her Creative Minority?" *Widening Horizons in Creativity*, ed., C. W. Taylor (New York: John Wiley & Sons, Inc., 1964), p. 4.

SUGGESTIONS FOR FURTHER READING

Barron, Frank. *Creative Person and Creative Process.* New York: Holt, Rinehart and Winston, 1969. Discussion of creativity and the nature of the creative person.

Delp, Jeanne L. and Ruth A. Martinson. *A Handbook for Parents of Gifted and Talented.* Ventura, California: Ventura County Superintendent of Schools Office, 1977. Information for parents about gifted children and resources for organizing parent groups.

Gallagher, James J. *Teaching the Gifted Child.* Boston: Allyn & Bacon, Inc., 1975. Review of characteristics of gifted children and details about special programs to educate them.

Gowan, John. *Development of the Creative Individual.* San Diego, California: Robert Knapp, 1972. Reviews what is known about creative persons and methods to enhance their characteristics.

Guilford, J. P. "Creativity: Yesterday, Today, Tomorrow," *Journal of Creative Behavior,* January 1967. Summary of the thinking of this psychologist-theoretician who has influenced the educational process of creativity over the past three decades.

Kaplan, Sandra N. *Providing Programs for the Gifted and Talented: A Handbook.* Ventura, California: Office of the Ventura County Superintendent of Schools, June, 1974. Descriptions of practical programs to use with gifted students including curricular modifications or adaptions in a variety of subjects.

Marland, Sidney. *Education of the Gifted and Talented: Report to the Congress of the United States....* Washington, D.C.: U.S. Government Printing Office, 1972. An influential publication on the status of education of gifted children in the United States; the prelude to current federal action for gifted and talented students which laid the groundwork for a new definition of giftedness.

Martinson, Ruth. *The Identification of the Gifted and Talented.* Ventura, California: National/State Leadership Training Institute on the Gifted and Talented, 1974. A summary of techniques for discovering gifted and talented students; stresses diverse methods and includes sections on identifying culturally different gifted children.

Passow, A. Harry, ed. *The Gifted and the Talented: Their Education and Development.* Chicago, Illinois: National Society for the Study of Education Yearbook, 1979. Gives current status of education of the gifted and talented. Topics range from the special problems of gifted women to program modifications in science, mathematics, and the arts.

Stanley, Julian, ed. *The Gifted and the Creative: Fifty-Year Perspective.* Baltimore, Maryland: Johns Hopkins University Press, 1977. Describes special efforts to identify and accelerate mathematically gifted youngsters.

Terman, Lewis M. "The Discovery and Encouragement of Exceptional Talent," *American Psychologist,* September 1954. Summarizes Terman's work on the characteristics of gifted children and adults.

Torrance, E. P., and R. Myers. *Creative Learning and Teaching.* New York: Dodd, Mead and Co., 1970. Suggestions for materials and programs based on the Guilford model for teachers and parents to use with gifted children.

NATIONAL ORGANIZATIONS

Office of the Gifted and Talented
U.S. Office of Education
Washington, DC 20202

National/State Leadership Training Institute on
the Gifted and Talented (N/S-LTI-G/T)
316 West Second Street, Suite PH-C
Los Angeles, CA 90012

The Association for the Gifted (TAG)
The Council for Exceptional Children
1920 Association Drive
Reston, VA 22091

This Occasional Paper is one of a series published by the Council for Basic Education, 725 Fifteenth Street, N.W., Washington, D.C. 20005. The Occasional Papers are distributed without charge to all members of the Council at the time of publication. Previous issues and additional copies may be purchased at the prices shown below. Orders for 20 or more copies of one title receive a 20 percent discount. Titles still in stock:

Phonics in Beginning Reading: A Guide for Teachers and Parents. $1.00.

Inner-City Children Can Be Taught to Read: Four Successful Schools by George Weber. $1.00.

Uses and Abuses of Standardized Testing in the Schools by George Weber. $1.00.

A Sound Curriculum in English Grammar. Guidelines for Teachers and Parents by Kenneth Oliver. $1.00.

Choosing a Science Program for the Elementary School by Howard J. Hausman. $1.00.

Art in Basic Education by Jacques Barzun and Robert J. Saunders. $2.00.

What Are You Doing Here? or Schooldays for the Teacher by Ellen Glanz. $2.00.

The Education of Gifted and Talented Students: A History and Prospectus by James J. Gallagher and Patricia Weiss. $2.00.

Education's Stepchild, Inservice Training by Peter Greer. $2.00.

Minimum Competency Testing: Guidelines for Policymakers and Citizens by Dennis Gray. $2.00.

Improving Curriculum Management in the Schools by Fenwick English. $2.00.

*Non-members enjoy a 20% discount on orders of 20 or more copies of a single publication.

*Members enjoy a 20% discount on all publications when they indicate their membership identification number on their order.

*Please add 20% when paying in foreign currency.